

Gregg (R.R.)

THE

PHYSICAL EVILS OF ALCOHOL.

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There can be no doubt that one of the greatest evils inflicted upon mankind, by the Allopathic branch of the medical profession, is the prevailing custom, established and fostered by all the influence of that school, of prescribing alcoholic stimulants, so almost universally, as remedial agents in disease. A few have seen something of the magnitude of this evil, and raised their voices against it; and *why should they not*, even though they have, as yet, been so powerless to accomplish any good? To say nothing of the almost certain prescription of ardent spirits for sick adults, whatever may be their disease, and the alarming evils that grow out of this, they see physicians commence this practice upon infants almost at birth, frequently giving these little creatures, what is, to them, enormous quantities of whisky, brandy, wine, etc., and follow this treatment through childhood and youth, whenever they are sick, until, when the victims arrive at that age that they can be reached by moral means, appetites have been formed, and all the moral barriers to the common use of spirituous



liquors have been broken down; and this, too, at the worst of all possible places it could be done to leave life-long impressions, namely, at the very family altar itself.

If all this were necessary for the better control of disease, it might be tolerated as the least of two evils; but that it is not, that it is, indeed, *far worse than useless*, we trust we shall be able to clearly demonstrate in the course of this paper. And here we wish to say that PURE HOMŒOPATHY has never had any hand or lot in the promotion or spread of this great evil. In Hahnemann's efforts to reform the practice of medicine, he early took decided grounds against the use of alcohol in any form, as a remedial agent in disease.

But, say our opponents, there are physicians who practice, or claim to practice, under the Homœopathic law, who do prescribe alcoholic stimulants extensively for the sick, and join with the Allopathist in the claim that alcohol subserves the purposes of food as well as medicine for the human system. This assertion, we regret to have to say, is too true, and it is on this account, no less than because of the curse itself, that we feel it our duty as a medical practitioner of some experience in the treatment of diseases *without* stimulants, to speak, and to speak plainly upon this most important subject.

With due deference, then, to all concerned, we must say frankly, that we deny as a whole and in detail, that alcohol is a remedial agent in any disease, or that it can properly be prescribed for any

conditions arising therefrom, and we deny that it is a proper article for food. On the contrary, we assert that it is a poison as well in disease as in health, which the system of man is the less able to bear, the more diseased or the weaker he is; that it has no place, under any circumstances, in the economy of man's nature, at least the exceptions, if any, are exceedingly rare; that its proper place is in the Arts, and here alone should it be used. And not only this, we have no hesitation in saying that our profession is guilty of a great *physical*, no less than moral, wrong to our race by occupying the position it does upon this question, and a wrong, too, from which there is not the slightest advantage gained in any respect, to compensate in the least for the immense evil done. But setting aside all the moral aspects of the question, we will treat it here only upon the ground of the *physical* injuries which alcohol inflicts upon the human system.

To maintain the assertions and denials above made, we will confine ourselves to *scientific facts* about which there is no dispute, and cite only those authorities who occupy the front rank in their profession. Professor Youmans furnishes us with the greatest number of reliable chemical facts bearing upon this subject in the least space, and in the clearest language, of any author with whose writings we are familiar; therefore, we quote him the most fully. In his Class Book of Chemistry, page 326, in speaking of the "PHYSIOLOGICAL ACTION OF ALCOHOL" and "*its substitution for water*," he says:

"The action of alcohol within the system is in no respect analagous to that of water; it is a disturber of the healthy functions, a disorganizer of the structure, and must therefore be ranked among *medicines* and *poisons*."

"*Effect of Alcohol upon the Tissues.*—The chemical composition of alcohol is such as to forbid the idea of its ever being transformed into the animal tissues. There is no evidence whatever that, under any circumstances, it is capable of serving for animal nutrition. Nevertheless, it has a specific and peculiar action upon the tissues which is due to its powerful affinity for water. 'If animal membranes, a mass of flesh or coagulated fibrine, be placed in alcohol, in a fresh state (in which they are thoroughly charged with water), there are formed at all points where water and alcohol meet, mixtures of the two; and as the animal texture absorbs much less of an *alcoholic mixture* than of pure water, a larger amount of water is, of course, expelled than of alcohol taken up, and the first result is a shrinking of the animal substance.' (Carpenter.) Experiments made by Leibig show that for one volume of alcohol taken up by a membrane, rather more than three volumes of water have been expelled from it. That the tissues are acted upon within the body the same as without it, is proved by the experiments of Dr. Percy, who found that when animals are poisoned by alcohol introduced into the stomach, the coats of that organ become so thoroughly imbued with it, throughout their whole thickness, that no washing can remove it. He also found that the tissues remote from the stomach are impregnated in the same way when alcohol is introduced into the current of the circulation. The shrinking of the tissues and alteration of their chemical relations which thus takes place, must obviously disturb the natural series of operations upon which nutrition depends."

"*How Alcohol affects the Blood.*—The effects of alcohol upon the blood are of a very marked and important character. It possesses the power of preventing the coagulation of fibrine. When an animal has been killed by the injection of alcohol into its blood-vessels, the blood often remains fluid after death, or coagulates but very imperfectly. The presence of alcohol in the blood is, therefore, an obstacle to nutriton, or to that vital process by which the solid substances of the fabric are

organized or elaborated from the blood. Accordingly, we have the testimony of physicians and surgeons that the nutritive and reparative powers of those who drink largely of spiritous liquors, in cases of wounds, ulcers, etc., are low. The healing process in such is, as a general rule, less certain and active than in others."

"It disturbs the Natural Process of Oxidation.—Again, when alcohol is mingled with fresh arterial blood, the red corpuscles, as may be seen with the microscope, shrink, and a portion of their contents is mingled with the liquor sanguinis, while at the same time the fluid darkens in color, so as to give it more or less of the venous aspect; and Bouchardat found that when alcohol is introduced into the system in excess, precisely the same change takes place in the arteries—their contents become of a venous appearance. The cause of this change is the fact that the alcohol is more combustible than the ordinary constituents of the blood, and consequently, rapidly attracts its oxygen and is burned to carbonic acid and water. By combustion, therefore, alcohol may become a source of heat in the body, but it is by *arresting the natural processes of oxidation* upon which the vigor of the animal powers depends. Leibig observes, that 'by the use of alcohol a limit must rapidly be put to the change of matter in certain parts of the body. The oxygen of the arterial blood, which, in the absence of alcohol would have combined with the matter of the tissues, or with that formed by the metamorphosis of the tissues, now combines with the elements of alcohol. The arterial blood becomes venous without the substance of the muscles having taken any share in the transformation.'"

"It disturbs the Excretion of Carbonic Acid.—Dr. Prout discovered that alcoholic liquors possess, in a remarkable degree, the power of *diminishing* the amount of carbonic acid in the expired air, and that no sooner have their effects passed off than the proportion of carbonic acid exhaled *rises much above* the natural standard. The accumulation of carbonic acid which thus takes place in the blood, and from which the system cannot get relief, is probably a partial cause of that prostration, both of physical and mental power, which attends the advanced stages of intoxication."

"Effects of Alcohol upon the Nervous System.—But that

part of the body which is attacked most powerfully by alcohol is the *nervous system*. It has a stronger affinity for the nervous substance than for any other tissue, seeking it out, as it were, and combining with it in preference to any other substances. In this case, to the skrinking or corrugating influence of alcohol upon the tissues must be added a *hardening* effect, due to its power of coagulating albumen, of which nervous matter is largely composed. This selective power of alcohol, by which it fastens upon nervous matter, is at once proved by the fact that it has been found diluted in considerable quantity in the substance of the brain of habitual inebriates. That so total a change as is thus produced in the nervous texture by this fiery compound, should cause great derangement in its functions, is what we might naturally expect, and what is abundantly shown by experience."

Sustained as these quotations are, in all their various parts, by five most prominent authors, each among the very best upon the point with which his name stands therein connected, and Leibig himself — whose opinions are always quoted by the advocates of stimulants — among the number, supporting two of the most important points, it would seem to be all that need be said of the frightful effects of alcohol upon the human system, and is better said than anything we can offer. Still, there are a few among the many evils pointed out therein, to which we wish to call more especial attention, as bearing more clearly upon the injurious effects of alcoholic stimulants in *disease*.

As will be seen in one of the quotations, "Dr. Prout discovered that alcoholic liquors possess, in a remarkable degree, the power of *diminishing* the amount of carbonic acid in the expired air." This

result is *inevitable* and the reasons for it are most obvious, as we shall now see. And to carry conviction home more forcibly to the minds of all, we will first call attention to a few simple physiological facts with which all physicians are familiar. One of the most important functions of the blood-corpuscles, as we know, is to bring carbonic acid gas from all parts of the system to the lungs, that it may there be expelled in the expirations, and the person dies at once if this work is suspended. These corpuscles are very minute shut sacs or cells, flattened upon opposite sides into more or less of the disc shape, are entirely confined within, and kept in continual motion through the blood-vessels, but are wholly disconnected from, and independent of each other as they circulate; and, of course, like all cells of which the body is composed, their walls are a regularly organized animal texture. They exist in vast numbers, and are so small that it requires a high magnifying power to see them. In their natural state, as they float in the serum, they constitute fully one-half the entire mass of blood in the human system, which, in a healthy man, is estimated at from eighteen to twenty pounds; so it will be seen there are many, many millions of these minute bodies, each in constant and rapid motion on its ceaseless rounds through the system, bringing back each time to the lungs its little load of carbonic acid gas, and thus assisting in this most necessary work. When loaded, they are distended at the sides into a bi-convex form, but as they pass through

the lungs, they give up the gas they have brought there and collapse as it were, becoming bi-concave, and then depart for another load. From this it must be clear to all, that anything which causes a *shrinking*, or *shriveling* of the blood-corpuscles as they circulate, curtails their capacity for carrying carbonic acid gas, just to the extent they are shriveled, therefore *necessarily* lessens, to such extent, the powers of the system to rid itself of what is a most deadly poison if retained in the blood. Well, alcohol *always* shrivels the blood-corpuscles to a marked extent whenever brought into contact with them in their natural or moist state, whether they be within or without the body. Why? Because, as stated in one of the quotations, upon the authority of both Leibig and Carpenter, it shrivels *any* and *all* soft animal tissues, and the blood-corpuscles being of, or similar to, such tissues, must be among those most affected by that article when it is taken into the system. In fact this is unavoidable if it acts at all upon them as it does upon other animal tissues, for alcohol penetrates the coats of the stomach more rapidly than almost anything else that can be taken into it, and passes at once into the blood-vessels, where it mingles directly with the corpuscles and *moves along with them*, thus enabling it to act upon them continuously, as long as it is retained in the blood-vessels. Then, in accordance with the results of Leibig's experiments, as cited by Youmans, showing the effect of alcohol upon all soft tissues, it will withdraw or expel from

the corpuscles, "*rather more than three volumes of water,*" for "*one volume of alcohol taken up by*" them. Therefore, it requires no argument to prove that this shrinks the corpuscles in a marked degree. Accordingly we have the testimony, not only of Youmans, but all other observers, that by the aid of the microscope they are distinctly seen to shrink, and their surface become corrugated whenever alcohol is mingled with them. And that the effect is the same within the body, as out of it, we have no less an authority than Dr. Percy to prove. Here, then, we see a force that is entirely beyond our control, whenever the agent of it is introduced into, and so long as it remains in the blood, which shrivels all the blood-corpuscles it comes in contact with, so that they *cannot*, by any possibility, distend to receive their apportioned load of carbonic acid gas, to convey to the lungs; and as there is no other way or means provided by which this work can be done, we have fully exhibited to us the reasons why alcohol possesses, in such a "remarkable degree, the power of *diminishing* the amount of carbonic acid in the expired air." We also learn by such scientific facts, that if ardent spirits are taken into the stomach, the results we have pointed out are absolutely unavoidable, and are in degree proportioned to the quantity taken. And it makes no difference in this respect, as it makes no difference in respect to other evils we shall speak of, what liquors are taken, whether whisky, gin, rum, brandy, malt

liquors, or any of the numerous wines, except in the quantity of alcohol these severally contain.

It must be that all realize more or less fully the terrible consequences of interfering, as above shown, or in any other way, with the expulsion of the surplus carbonic acid of the system; but to bring this subject more clearly to mind, in this connection, we will cite a few familiar illustrations. No person, no matter how strong and vigorous he may be, can endure an entire stoppage of respiration beyond a few moments and live. Why? Because an excess of carbonic acid gas in the blood is so poisonous, that what accumulates therein, in consequence of the few moments' suspension of respiration, immediately kills. Essentially, the same thing happens when a person goes into an atmosphere highly charged with this gas, as occasionally occurs to workmen upon entering old wells, mines, etc., which are said to have the "damps." Although, in such cases respiration is not suspended, yet, the person inhales this gas instead of natural air, and if not rescued he is soon so charged with it that he dies in consequence, and from the same immediate cause as the other person whose respiration is stopped by violence.

Let us now compare the effect which we have shown alcohol to have, in preventing the excretion of carbon, to the above facts. This article, we repeat, contracts or shrivels all the blood-corpuscles it comes in contact with, to such a degree, that they

cannot, while under its influence, dilate, or be dilated, to receive and carry their apportioned load of carbonic acid gas to the lungs to be expelled; consequently, if sufficient numbers of the corpuscles are affected by it to carry this result beyond a certain point, the person is poisoned to death. Absolutely pure alcohol, because of this action, would kill at once, even in a moderate quantity. Again, the man who takes enough of it in the diluted form of whisky, etc., to make him "dead drunk," is in a similar condition to the one who has been rescued after becoming insensible, but before life is extinct, from an atmosphere overcharged with carbonic acid gas. This gas, in either case, blackens the blood and distends the blood-vessels; therefore it is that the two are bloated and discolored, and when the result has been carried to an extreme, they are so disfigured that they cannot be recognized, but both may be brought back to consciousness and to health, if the effect has not gone too far; if it has, both must die, and each from the one cause, namely: accumulation of too much carbon in their blood.

Would any intelligent man, not a physician, hazard his reputation for common sense by recommending the vitiated atmosphere of old wells, mines, etc., or any other air charged with too large a proportion of carbonic acid gas, as the most wholesome for man to breathe, or as beneficial under any circumstances? Yet they might just as well do this absurd thing, as for physicians to recommend alcoholic stimulants as wholesome under any circumstances,

and for the reasons we have pointed out. But they may say they do not carry this matter to an injurious extreme. To which we reply they do, as we shall see, further on.

It seems proper to remark, in this connection, that alcohol is not a *natural* product, that is, it does *not* exist, naturally formed and stored up in the grains, fruits, etc., from which it is derived, as we have frequently heard people assert was the case, and argue from this that it was intended as a beverage for man's use. On the contrary, it is produced solely by *rotting* the grains and the vegetable matters in the juices of the fruits from which obtained, the *principal* products of which process are two deadly poisons, namely: alcohol and carbonic acid gas, in nearly equal proportions each, by weight.

It has been said, we believe, that as a rule in science, it is in bad taste to present more than one proof of a truth or of an error, when that one settles the point at issue; and yet, though we have shown the physical evils of alcohol sufficiently, one would think, to satisfy any rational mind, the vast importance of the subject leads us to violate this rule, and present one or two more facts about which there is no controversy.

"It [alcohol] possesses the power of preventing the coagulation of fibrin," says Youmans, in one of the quotations we have made from him, and all other authorities upon this subject say the same. Then put along side of this established fact, the

other, namely; that the repairs of many parts of the system *cannot* be carried on in the slightest degree, without the coagulation of fibrin, and what does it prove? Why, this. If alcohol could be borne in all other respects besides this, without injury, this effect alone would soon kill, if the system was continuously kept under the influence of it, to the extent of preventing such coagulation. And there never has been a question raised upon this fact, namely, that when taken in moderate quantities, the effects of ardent spirits are in degree proportioned to the amount taken.

We have thus far spoken only of the evil effects of alcohol in health; now let us turn our attention to its effects upon the human system in disease. Here the evils are greatly increased, for its action is necessarily the same in kind, but much exaggerated in degree, because, the weaker the patient is, the less able is he to resist injurious influences, in this, as in all things else that disturb or annoy him. It has hitherto been thought necessary that we should, by all means, avoid anything and everything that could in any way impede respiration in the sick; especially, that nothing should be allowed to interfere with their inhaling *pure* air, and exhaling all that was possible of the noxious gases generated in their system, either through natural operations, or as a result of disease. And what was true once, in this respect, we believe to be true still. What, then, must be said of all those physicians—especially those who claim to be well educated—

who so heedlessly prescribe whisky, or any other alcoholic stimulant for the sick, when it is inevitable that they must thereby slowly poison their patients by the forced retention of carbonic acid gas within their systems, which the alcohol prevents them from throwing off through the lungs? Let us show all such by a single illustration, what frightful evils they are committing. Carpenter, in his *Physiology*, page 367, says: "The first product of the decay of all organized structures is *carbonic acid*; and this is the one which is most constantly and rapidly accumulating in the system, and the retention of which, therefore, within the body is the most injurious." The disintegration or "decay" of tissues throughout the body, of which Carpenter here speaks, is, as all must know, generally, if not always, much more rapidly carried on in disease than in health, thereby increasing the amount of carbonic acid gas above the healthy standard — another point showing still more prominently the great error of giving anything that will impede its expulsion from the system. Those who are committed to this practice, however, will, we suppose, claim that they do not carry the matter to this extreme. But they shall not escape on the plea that moderate quantities of stimulants have no such action as we have pointed out. Lehmann, in his great work entitled *Physiological Chemistry*, Vol. II., page 456, tells us that, "Vierordt, like Prout, found that the excretion of carbonic acid is both absolutely and relatively diminished even after a *moderate* use

of *spirituous drinks*. He has also confirmed Prout's observation, that the increased excretion of carbonic acid which accompanies digestion was considerably checked by the use of spirits." An evil, again, in digestion, instead of a help to it, as has so long been supposed. Better that the advocates of stimulating in disease, compel their patients to go into an atmosphere overcharged with carbonic acid gas, or what would be the same, confine them in small close rooms without any ventilation, and thus poison them in a direct manner to the same extent, than to indirectly compel the retention of this same gas within their systems by whisky, etc., under the delusive hope that it is the best that can be done for them.

In all this we have made no account of the *fact*, endorsed by both Bouchardat and Leibig in one of the quotations from Youmans, that alcohol *robs the arterial blood of its oxygen*, and is burned to carbonic acid and water, thus *actually and markedly increasing the quantity of this gas* in the blood, beyond what would be there through natural operations, and at a time, too, when even the natural amount cannot be expelled because of the action of this same agent of mischief.

Again, as we have seen, alcohol *prevents the coagulation of fibrin*, and this entirely suspends, or greatly retards — according to quantity taken — the repairs made so necessary by the great waste of tissues in disease; therefore, convalescence from any serious malady is made slow, tedious and uncertain

by it, the victim rendered a bloated unnatural object, many times without any energy or endurance for months, and far too often, through no fault of his own, he is absolutely forced into a condition where, by artificial appetites and cravings excited and fastened upon him at a time when all the sensibilities of his nature are aroused, there is no escape from his becoming a confirmed drunkard.

But this terrible record does not stop here even, so true is it that a violation of any of God's moral laws, is a violation, in an equal or greater degree, of all physical laws or facts bearing upon the same point. We have seen that Youmans says that alcohol acts "more powerfully" upon the brain and nervous system, than upon any other organ or texture of the whole animal body. Of this, however, we will not speak in detail, preferring to let it rest upon the explicit language of this author. We will only ask if any can suppose that such violent action upon the nervous system, together with the excitement that must necessarily be engendered thereby, can have any beneficial effect in allaying the excitements and disturbances caused by disease?

Now, it will no doubt astonish many to be told that there is not one single favorable effect which alcohol is known to have upon the human system, that will counterbalance, in the least, any of the evils we have shown. It will stimulate, we grant, but who does not know that the person who takes it, must, as soon as the stimulating effect passes off, sink as much below the point he was at, when tak-

ing it, as he was carried above by it, and be more or less exhausted generally by the excitement and consequent depression his system has been forced to pass through? Many patients get up from acute diseases, we know, under the action of stimulants, as many would get up, if not too much prostrated, in spite of other evils that might be heaped upon them. But many, also, die if compelled to carry *any* burden in addition to their disease, while they *might* live without it.

There is another great evil committed by stimulating. We have frequently known diseases driven from a *less* vital to a *more* vital organ or part by it, and here, perhaps, forced into a dormant condition by the stronger vitality of this part, thus allowing the patient to get up apparently well, but with the certainty of having some serious acute or chronic disease break forth in the more vital organ, as soon as the resisting power of this stronger organ is sufficiently overcome to enable it to do so.

It should be borne in mind here, that all the objections raised apply to *pure* liquors, for it is the alcohol, *alone*, of these, against which we are speaking. If they are drugged, as is so commonly the case, other evils are simply added which correspond to the quantity and quality of articles used in drugging them.

Some will perhaps say, such reasoning may do well enough in theory, but no other treatment, beside stimulating, can be carried out in practice with as good results, even, as has attended that. To

which we make answer, that we have carried our theory, or rather *Nature's truths* upon this subject, into practice with the most remarkable results, if we may be allowed to judge. We have now been engaged in the general practice of medicine, treating all classes of disease, over fifteen years, and we think we may truthfully add, that our professional life has not been an idle one. And, for the reasons detailed herein, we have never, in all this time, prescribed alcoholic stimulants for but just two patients, and then but for a few hours, and solely for their stimulating action to pass a crisis in great emergencies arising from most violent hæmorrhages; but we deny the propriety of their use, even then, except as an expedient in the absence of positive knowledge of the exact drug to be administered on the first threatening of danger in such cases. The time will soon come, however, when a fuller knowledge of the specific action of drugs will enable us to control *all* such cases with medicines, as we now do *most* of them, far more safely for the patient, than by any other means.

We will now cite for an example of our results in treating disease without stimulants, *typhoid fever*, in which whisky, or its equivalent, is thought pre-eminently necessary, because of the greatly debilitating effects of this malady beyond most others. In the time we have been in practice, we have passed through three very serious epidemics of typhoid fever, and several milder epidemics of the same, treating our proportion of patients in all these; twice,

indeed, having charge of many more than our proportion, and have, besides, treated many sporadic cases. We never allowed alcoholic liquors of any kind, name or nature, in a single one of all the cases treated, and have never lost but two patients of this fever, and these were among the sporadic cases. One of them died suddenly from a most violent hemorrhage from the bowels, which came without any warning, when he was apparently doing well: the other was a case where a long and harassing cough was suddenly suppressed by some kind of balsam, taken against our orders, which drove all the diseased action from the lungs to the brain, and resulted in one of the most severe cases of cerebral typhus. Nor is this all of this record. The period of convalescence in all saved was remarkably short: not one of them went into consumption or other chronic disease, results which are by no means uncommon with such patients under stimulating treatment: not one of them, that we now remember, got up with a broken constitution, but all were as well after, many in fact better, than for a long time before their sickness. We will here mention another fact, not without significance, in this connection. About the only trouble we had with any, during convalescence, was with a few who violated our most positive orders not to take stimulants, but took them, nevertheless: and in every instance of this kind, that came to our knowledge, the patients had relapses more or less severe, while not one who obeyed orders, had, or was even threatened with, relapse.

Now, all this occurred, while in the epidemics mentioned, patients who had stimulants were dying all around us, and many of these we sincerely believe *lost their lives in consequence of the alcoholic poisons given them.* How could it be otherwise, in view of the frightful effects of alcohol upon the human system, which we have pointed out?

We could extend this favorable report to many other, among the gravest classes of disease, and show equally good results in the treatment of all these without stimulants; but for want of time and space we must pass on and give our further attention only to Consumption. It has now been the almost universal custom among Allopathic physicians, for some fifteen or twenty years, to prescribe whisky as the very best remedy for this disease, as was the case with them in regard to cod liver oil, for a series of years preceding. Let us see with what results this practice has been attended. To such vast numbers of consumptives has whisky been administered through such a number of years, we should naturally be led to expect, if there had been *any* favorable results, to find them among the statistics of this malady, showing a lessening of its frightful mortality; but instead of such being the case, we are warranted, by all the facts we can gather, from the most reliable sources, in saying that the mortality from consumption is now *as great*, if not greater than *ever before.*

We will call attention to another point which seems to us to have peculiar force in this connection. All must know that *ulcers* are frequently *caused* by

intemperance, and that both wounds and ulcers upon drunkards are far more difficult to heal than they are upon those who are temperate, simply because of the great derangement or poisoning of the blood by the spirituous drinks. Then how can it be possible that whisky or alcohol in any other form, can have or excite a healing action upon ulcers *already existing* in such delicate tissues as those of the lungs, especially when all of this that is taken into the stomach must first go to and through the lungs, before it is distributed over the system? The fact of the congestion, inflammation and ulceration of the stomach and liver, so commonly found existing in the intemperate, as a result, solely, of the alcoholic stimulants taken, must not be overlooked in this connection, neither must the equally important fact, that *all* of this agent, which has created such terrible havoc in the organs named, must move along in the blood-vessels, with a greater part of its fiery forces unexhausted, to a like attack upon the lungs, before it can find any possible outlet, whereby its fury may be abated. What must be its effects, then, upon the lungs of a consumptive, when there are tuberculous deposits, and probably ulcers therein, with such a marked tendency as always exists in such cases to congestion and the lighting up of inflammation under the most trivial excitement? Once it has been distributed through the lungs, the alcohol must have its force very much weakened, both by evaporation carrying off considerable portions of it in the exhaled gases, and by the chemical changes between its ele-

ments and those of the inhaled air; and yet, it even then reaches the most remote parts of the system, carrying more or less havoc in its course, and causing those irritations and derangements of the blood and tissues, which, as already mentioned, make it so difficult to heal wounds and ulcers upon those addicted to intemperance.

In addition to this we will simply say, the reader will find, by reference to another part of this journal, that we claim to have discovered the *cause* and true pathology of Phthisis Pulmonalis, and the knowledge afforded by this discovery, shows us as clearly, if not more so, than anything presented in this paper, that alcohol in any form, is a most unmitigated curse in this disease. We are fully aware of the great responsibility which such a claim carries with it; still, we have no hesitation in asserting that it is supported by more *known facts* in both physiology and pathology, which have hitherto stood isolated, and not thought to have any connection with or bearing upon Phthisis, than is any other discovery in medical science. Indeed, we can say it is sustained by the most remarkable chain of evidence of any truth in organic Nature, with which we are familiar, and is without any conflicting testimony upon a single link in the entire chain. And we repeat, it is as much or more, from facts gathered in this new field, and through long research therein, that we condemn the use of spirituous liquors in all tuberculous diseases.

We know there are many who sincerely believe they have been materially helped, and others that

they have been cured of consumption by whisky, or other stimulants, but we would say, and we think what we have shown warrants our saying, that all such got better in spite of both the violence of their disease, and the evil effects of their treatment; and we think we may assert, in view of the incontestable facts we have herein pointed out, that *in all cases of disease, life is more certain, and recovery more speedy, without, than with alcoholic poisons.* Is there a possibility of its being otherwise, in opposition to all the laws of Nature bearing in any way upon the subject?

In conclusion we turn our attention a few moments to the claim made by many, that alcohol is an article of food, and necessary, as such, for the animal system. Notwithstanding the weight of authority sustaining this claim we cannot speak of it but as a most monstrous pretence, which is all the more degrading to man and derogatory to the Almighty, because advocated by able minds. What! After seeing that the Creator has provided food for us which is almost without limit in quantity and variety, and that He has made provision whereby the annual reproduction of all this is apparently to be continued to the end of all earthly things, must we say, in effect, that He did not furnish us with a sufficient variety, and thereby *neglected a plain duty which we are competent to correct?* And then, upon this blasphemous declaration, shall we set ourselves to work, and *rot* a portion of the *best* He has provided, to make an article one-fourth or less in quan-

tity of what we destroy, and this an article so deadly that its destructive effects upon animal life can only be avoided by greatly diluting it with water; and which, when thus diluted, is and has been the greatest curse of our race? Does either of these enormities, or any other, even in the slightest degree, attach to any among the great variety of *natural* food which God has given us, we would ask? Again we must say, such pretense is most monstrous. Too monstrous, indeed, to be harbored an instant by any intelligent being.

A little material that would serve for food might be found in some of the most deadly vegetable poisons, but is there any evidence in this that such should be eaten? In the name of all that is right, are there not enough articles of food furnished us, which are entirely innocuous in every respect, without our using *any* questionable materials whatever?